

**FEATURES**

- Magnetic designs to support every PHY
- Meet or exceed IEEE 802.3 and ANSI X3.263 standards
- including 350uH min OCL with 8mA bias
- Minimum 1500Vrms isolation per IEEE 802.3 requirement
- Designed for 100 base transmission over UTP-5 cable
- Size same as RJ-45 modular jack to save PCB board Space
- Recognized by UL 60950-1


**ELECTRICAL SPECIFICATIONS @25°C-Operating temperature 0°C TO 70°C**

| Part Number   | Turns Ratio<br>±5% |            | EMI Fingers | LED (L/R) | Insertion Loss<br>(dB max) | Return Loss<br>(dB min @100Ω±15Ω) |          |        |        |           | Crosstalk<br>(dB min) |        |         | Common Mode Rejection<br>(dB min) |        |         | Hipot<br>(V <sub>rms</sub> ) |
|---------------|--------------------|------------|-------------|-----------|----------------------------|-----------------------------------|----------|--------|--------|-----------|-----------------------|--------|---------|-----------------------------------|--------|---------|------------------------------|
|               | TX                 | RX         |             |           |                            | 0.3-100 MHz                       | 1-30 MHz | 40 MHz | 50 MHz | 60-80 MHz | 30 MHz                | 60 MHz | 100 MHz | 30 MHz                            | 60 MHz | 100 MHz |                              |
| 13F-60X       | 1CT:1CT            | 1CT:1CT    | YES         | N/A       | -1                         | -18                               | -16      | -14    | -12    | -12       | -45                   | -40    | -35     | -35                               | -30    | -25     | 1500                         |
| 13F-61X       | 1CT:1CT            | 1CT:1CT    | YES         | N/A       | -1                         | -18                               | -16      | -14    | -12    | -12       | -45                   | -40    | -35     | -35                               | -30    | -25     | 1500                         |
| 13F-62X       | 1CT:1              | 1CT:1CT    | YES         | N/A       | -1                         | -18                               | -16      | -14    | -12    | -12       | -45                   | -40    | -35     | -35                               | -30    | -25     | 1500                         |
| 13F-69GYDNW2  | 1CT:1              | 1CT:1      | NO          | G/Y       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-69ND2     | 1CT:1              | 1CT:1      | YES         | N/A       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-69GYD2    | 1CT:1              | 1CT:1      | YES         | G/Y       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-64NW2     | 1CT:1CT            | 1CT:1CT    | NO          | N/A       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-64GYDNW2  | 1CT:1CT            | 1CT:1CT    | NO          | G/Y       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-64ND2     | 1CT:1CT            | 1CT:1CT    | YES         | N/A       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-64GYD2    | 1CT:1CT            | 1CT:1CT    | YES         | G/Y       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-64GGD2    | 1CT:1CT            | 1CT:1CT    | YES         | G/G       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-61ND2     | 1CT:1CT            | 1CT:1CT    | YES         | N/A       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-64AND2    | 1CT:1.414CT        | 1CT:1CT    | YES         | N/A       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-64AGGD2   | 1CT:1.414CT        | 1CT:1CT    | YES         | G/G       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-62ANW2    | 1CT:1              | 1CT:1CT    | NO          | N/A       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-62AGYDNW2 | 1CT:1              | 1CT:1CT    | NO          | G/Y       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-62AGGDNW2 | 1CT:1              | 1CT:1CT    | NO          | G/G       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-62AND2    | 1CT:1              | 1CT:1CT    | YES         | N/A       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-62AGYD2   | 1CT:1              | 1CT:1CT    | YES         | G/Y       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-62AGGD2   | 1CT:1              | 1CT:1CT    | YES         | G/G       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-62ADGD2   | 1CT:1              | 1CT:1CT    | YES         | Y/G/G     | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-62CGYD2   | 1CT:1              | 1CT:1CT    | YES         | G/Y       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-60CND2    | 1CT:1CT            | 1CT:1CT    | YES         | N/A       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-60END2    | 1CT:1.41CT         | 1CT:1.41CT | YES         | N/A       | —                          | —                                 | —        | —      | —      | —         | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-60VGYD2   | 1CT:1CT            | 1CT:1CT    | YES         | G/Y       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-61FND2    | 1CT:1CT            | 1CT:1CT    | YES         | N/A       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |
| 13F-66YGDNW2  | 1CT:1CT            | 1CT:1CT    | NO          | Y/G       | -1                         | -18                               | -16      | -12    | -10    | -10       | -40                   | -35    | -30     | -30                               | -20    | -20     | 1500                         |

13F - 6X GYD NW 2 NL  
A B C D E F

A:Series

B:Schematics

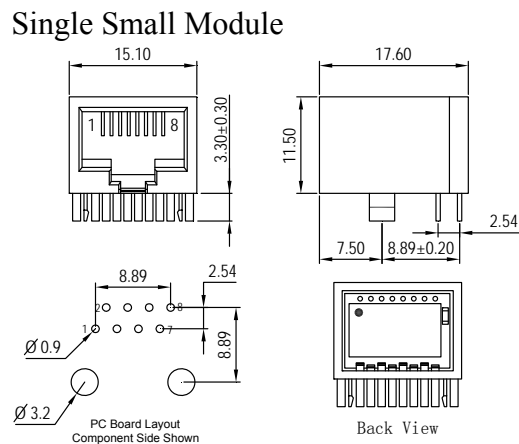
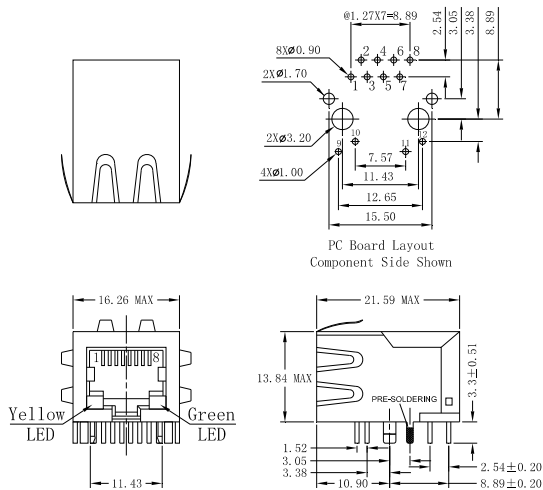
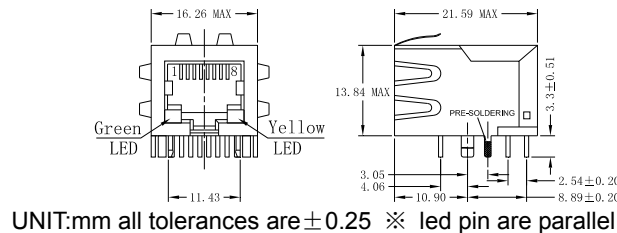
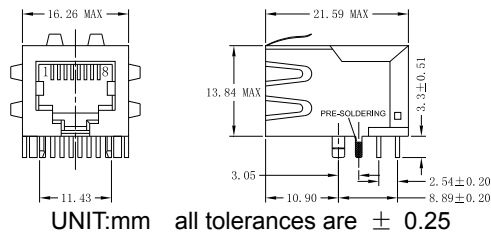
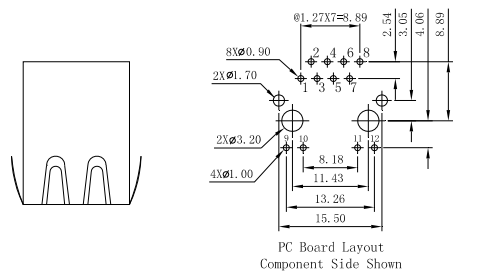
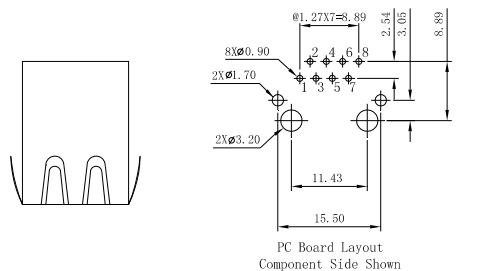
C:Led

D:Mechanical

E:Gold Plating:1=3u",2=6u",3=15u",4=30u",5=50u"

F:RoHS version

## Mechanicals and Dimensions



## MATERIALS

### 1.Housing Material:

MATERIAL:NYLON +25% GF (Fr50) UL94V-0  
STANDARD COLOR:BLACK

### 2.Insert Material:

MATERIAL:Phos-Bronze C5210 EH---0.35mm Thickness  
Insert -PBT+30% GF UL94V-0  
1.PLATING(1) NICKEL  
2.PLATING(2) 100%Sn  
3.PLATING(3) GOLD FLASH (3u " ~50u " )

### 3.Plate Material:PBT-4830 +30% GF UL 94V-0

### 4.Contact pin Material:

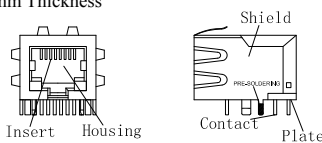
MATERIAL: Phos-Bronze C5191---0.35mm Thickness  
1.PLATING(1) NICKEL  
2.PLATING(2) 100%Sn

### 5.Shielding Material:

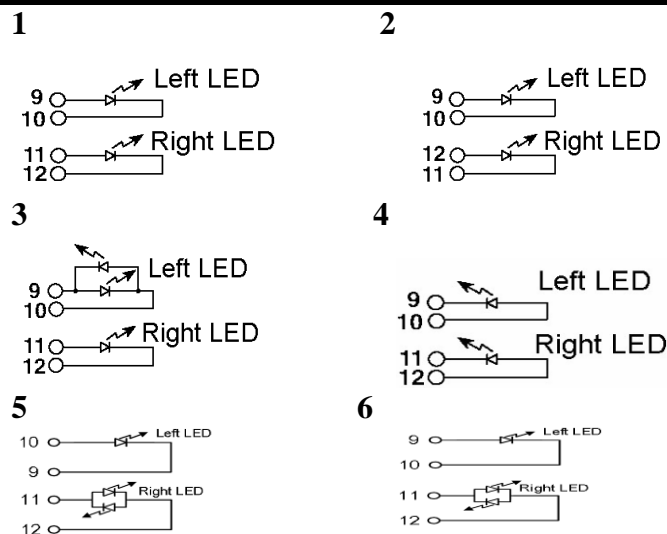
BRASS C2680 PLATING NICKEL

### 6.Operation Life : 750 Cycles Min.

### 7. MATES WITH MODULAR PLUG CONFORMING TO FCC PART 68,SUBPART E.

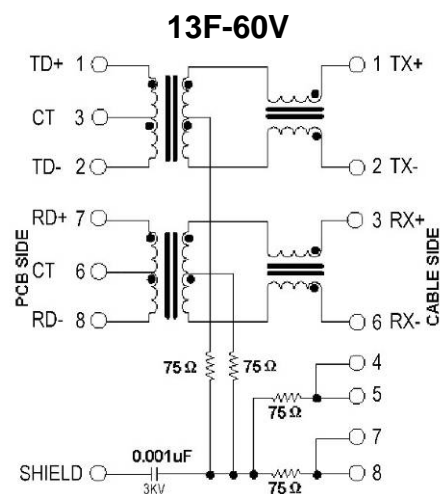
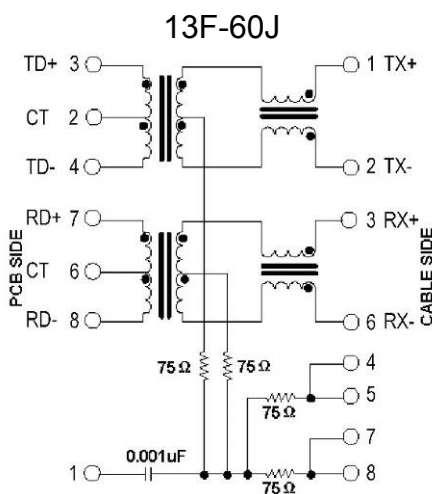
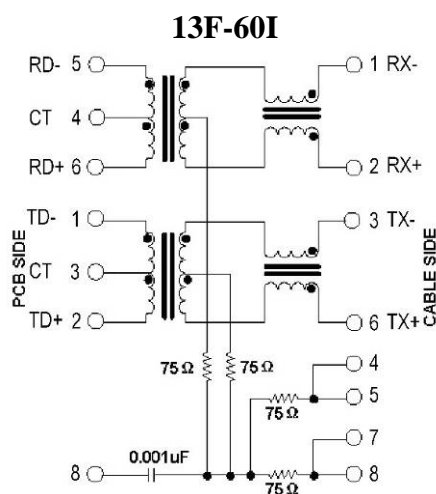
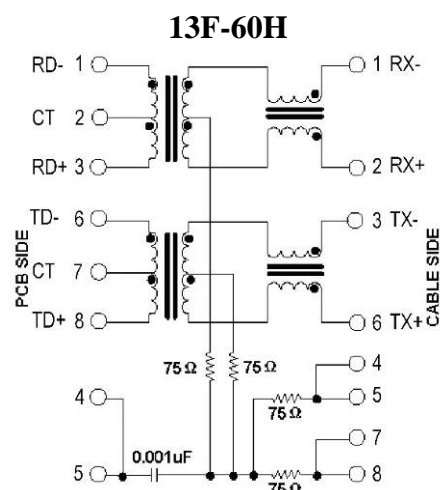
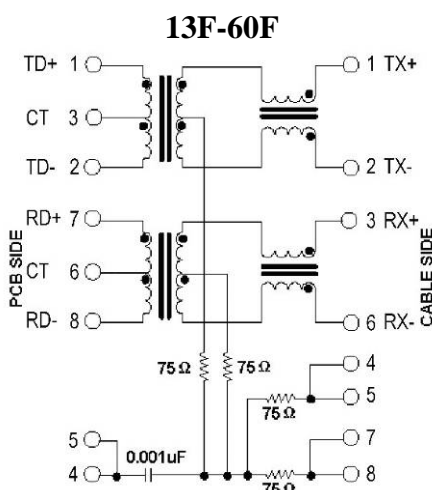
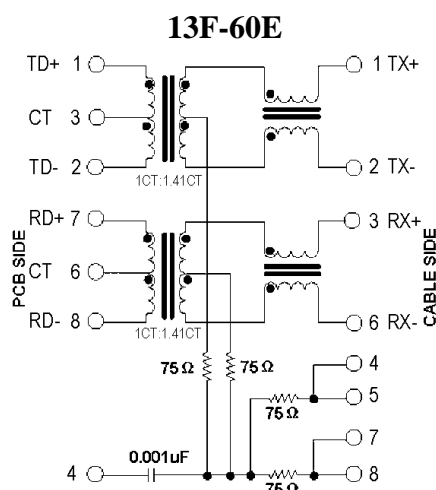
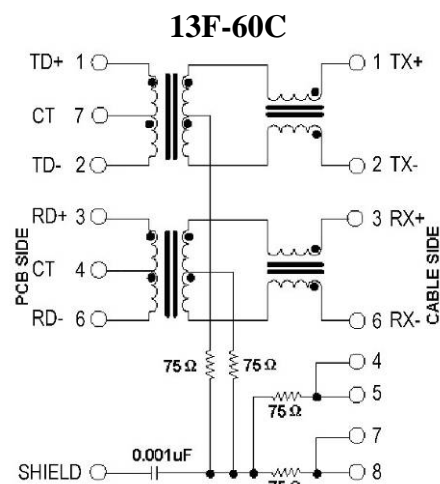
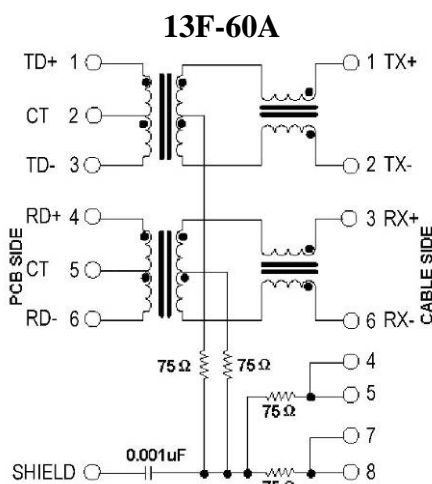
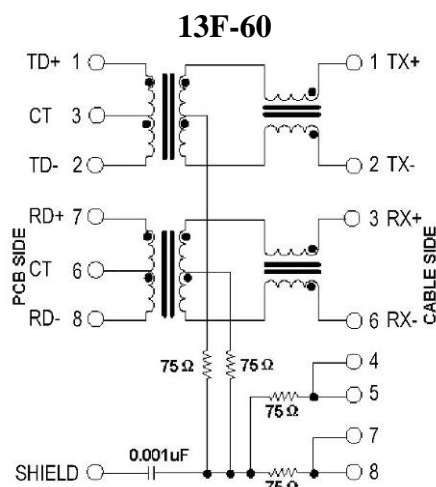


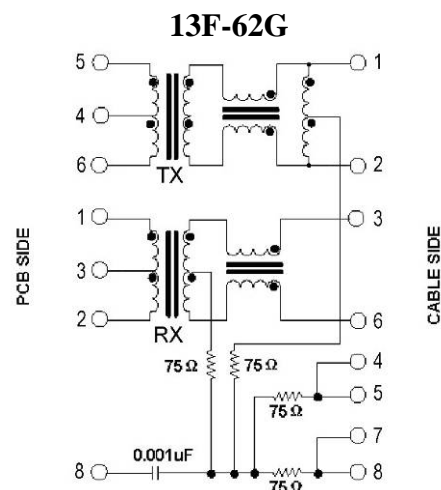
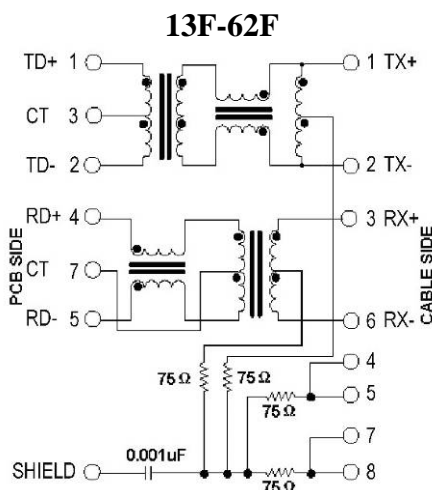
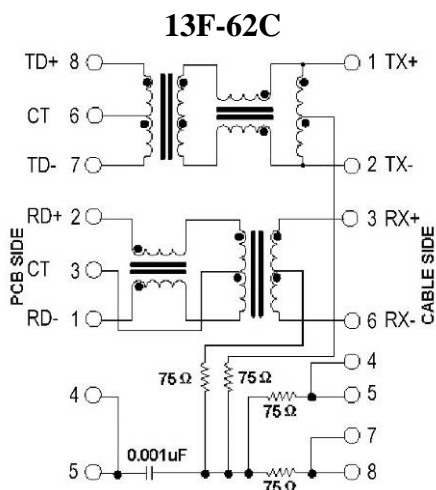
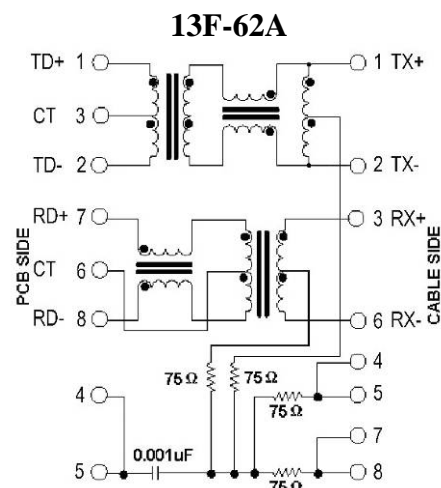
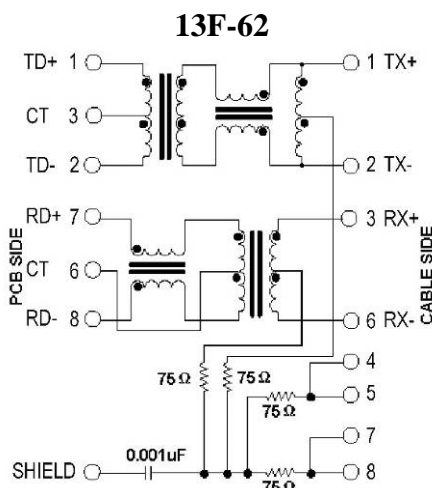
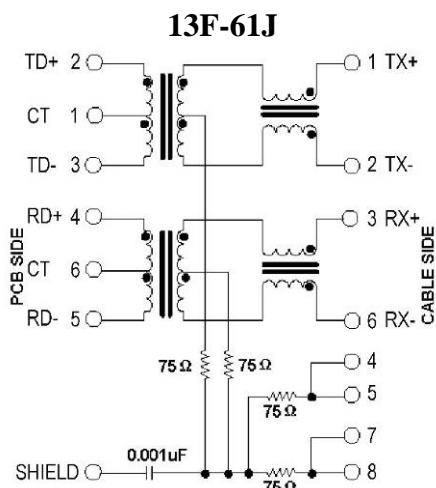
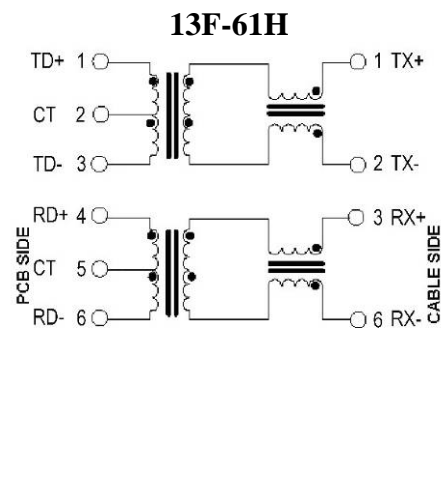
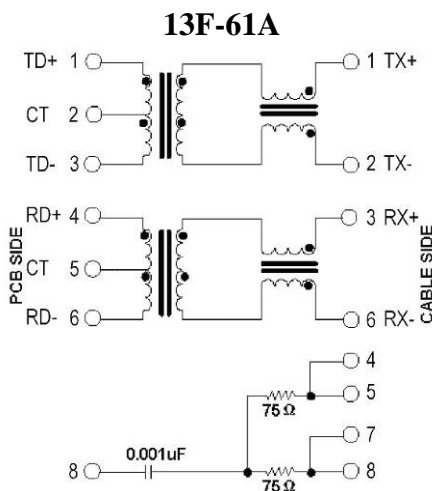
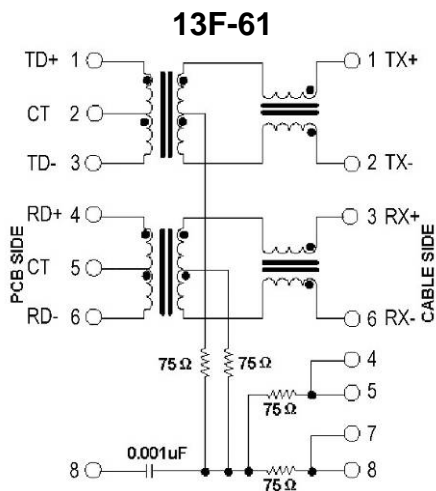
## LED Configuration

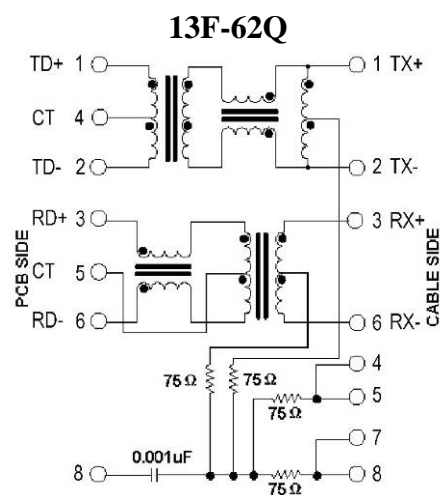
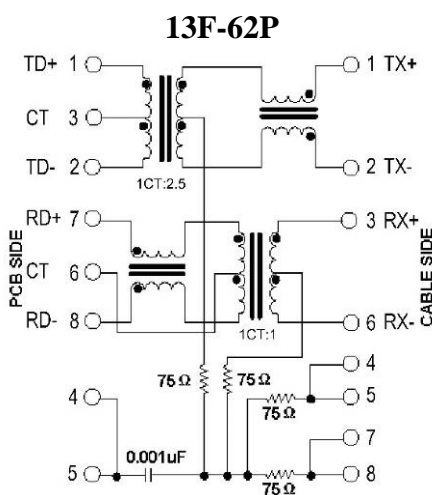
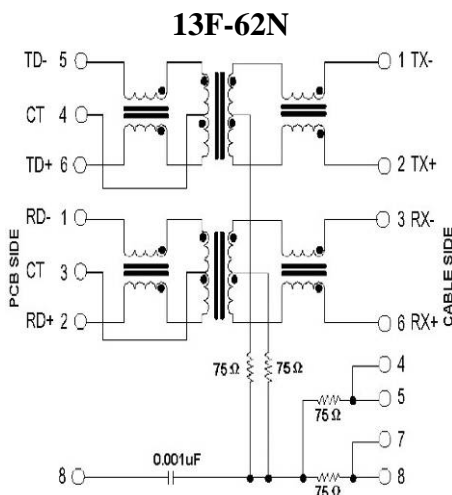
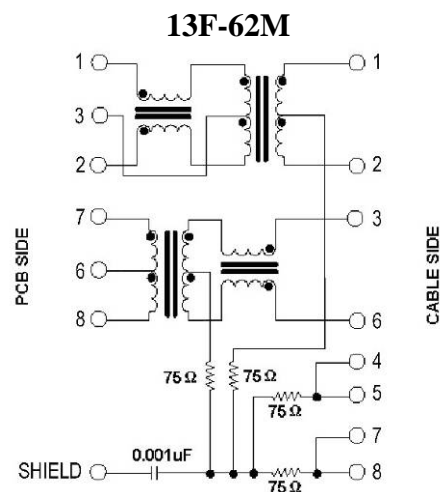
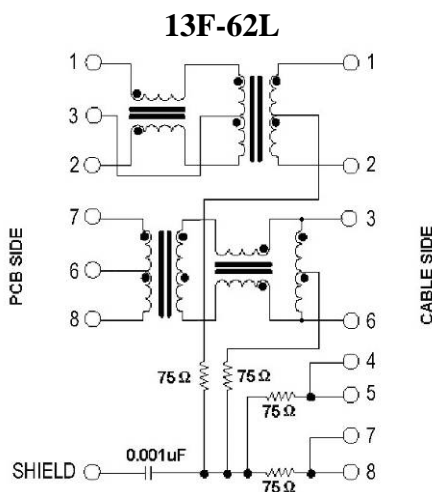
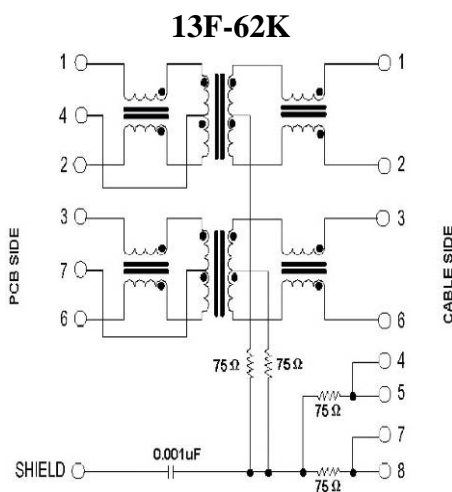
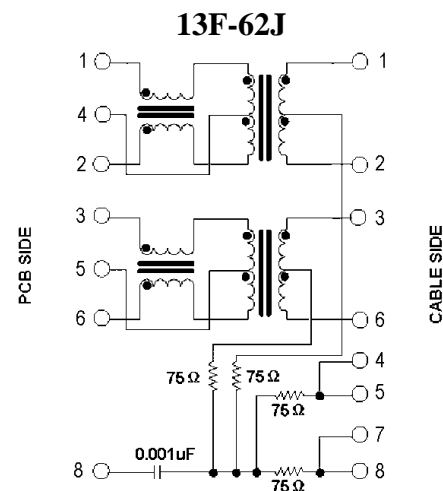
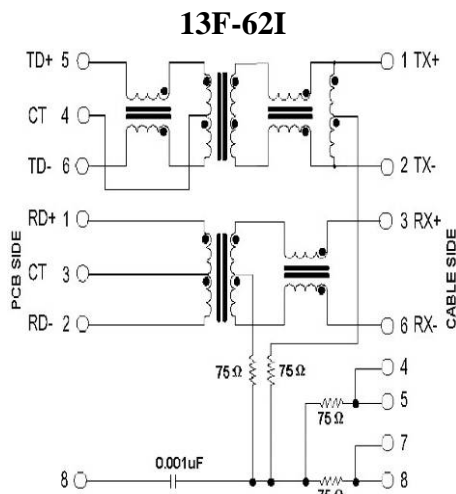
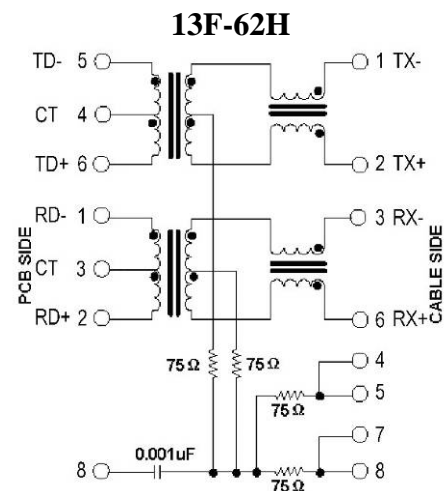


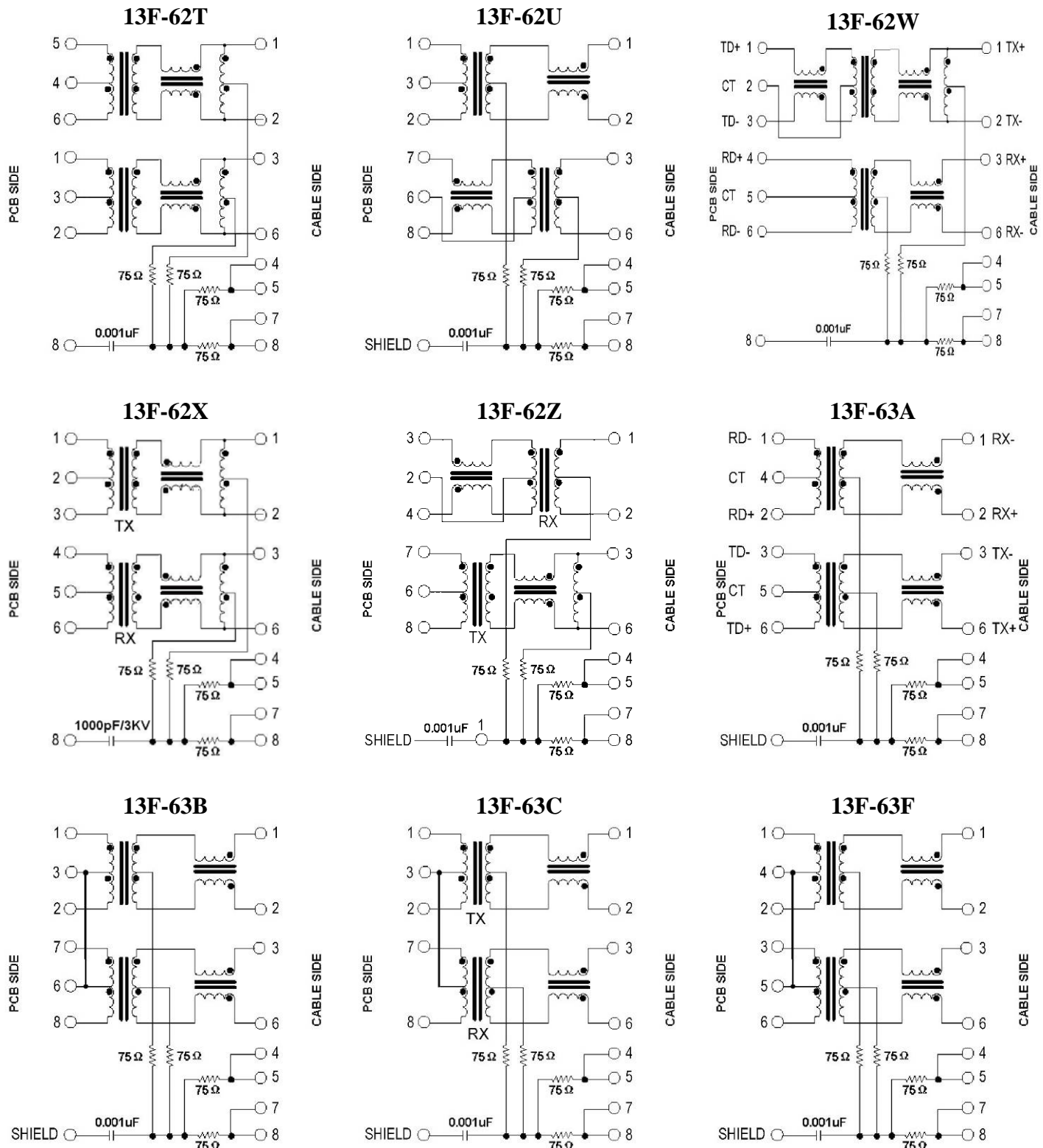
Vin=2.1Vdc TYP. 2.5Vdc MAX.

**SCHEMATICS**

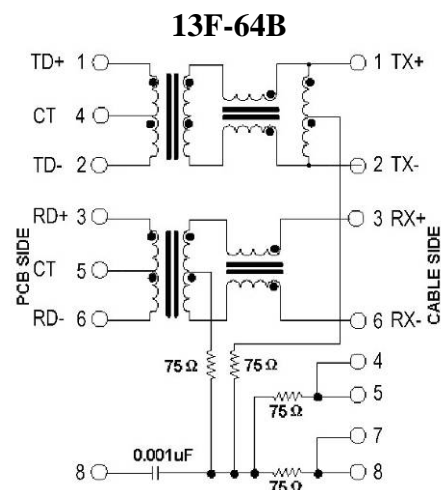
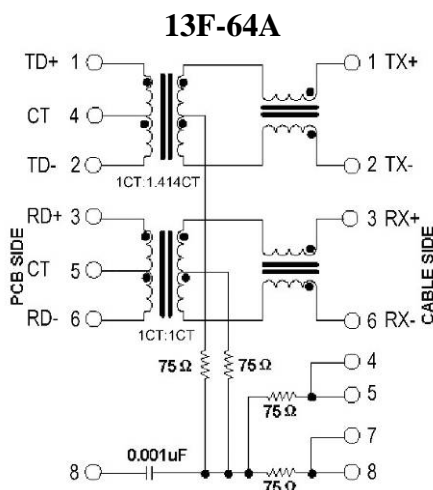
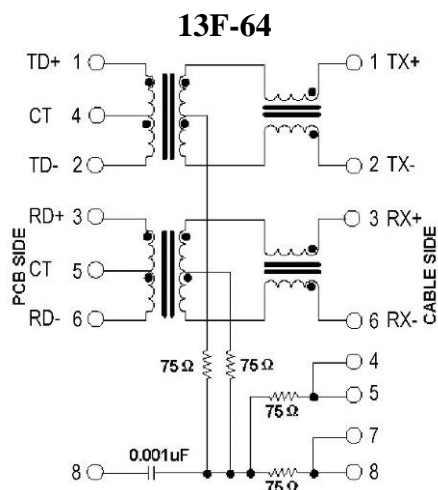
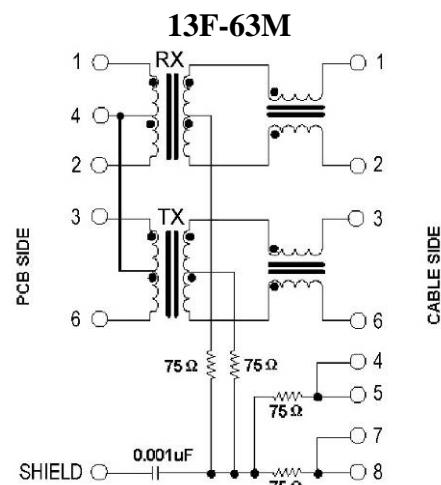
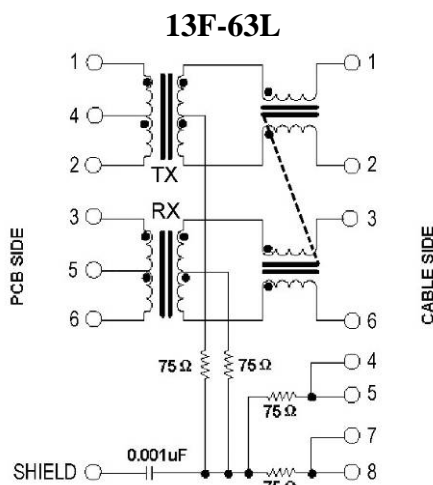
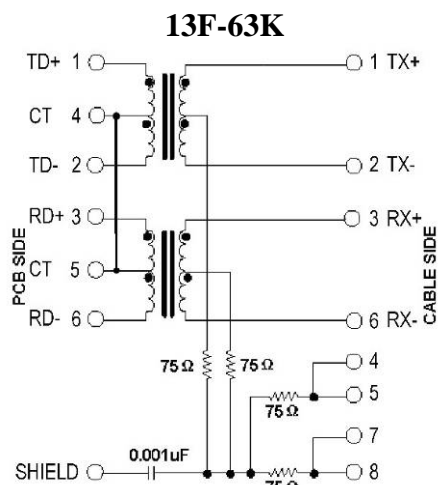
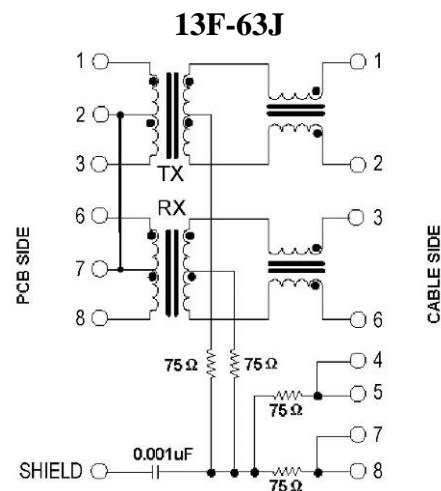
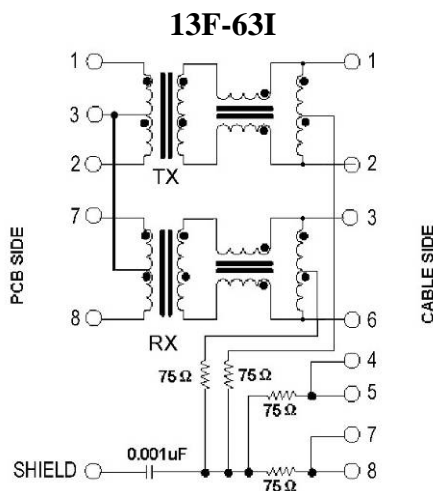
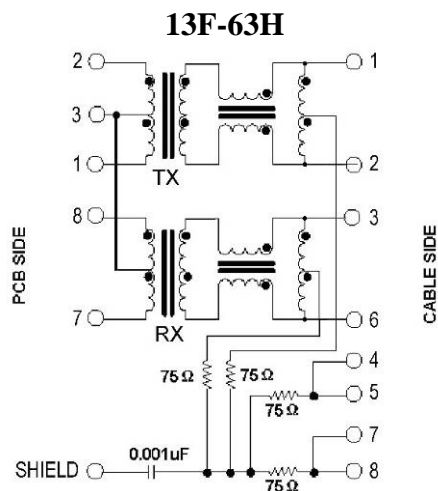


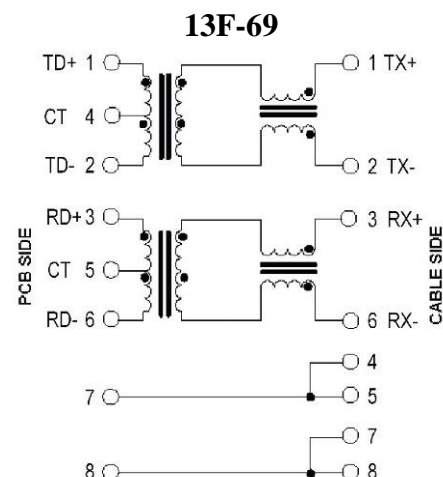
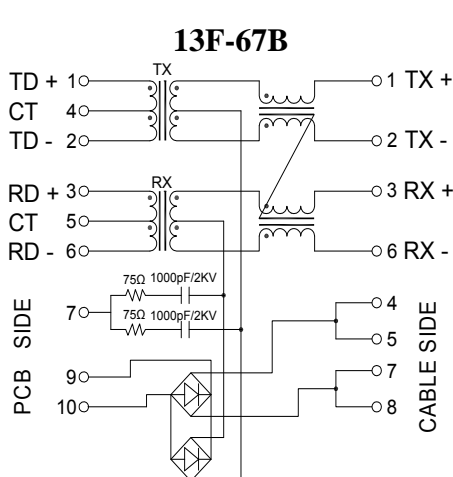
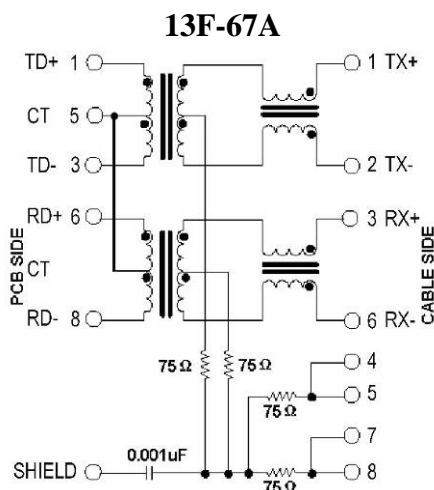
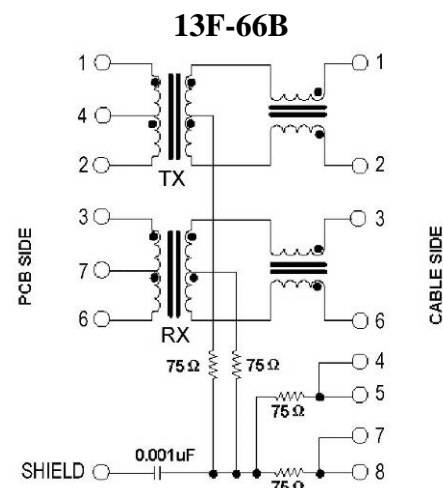
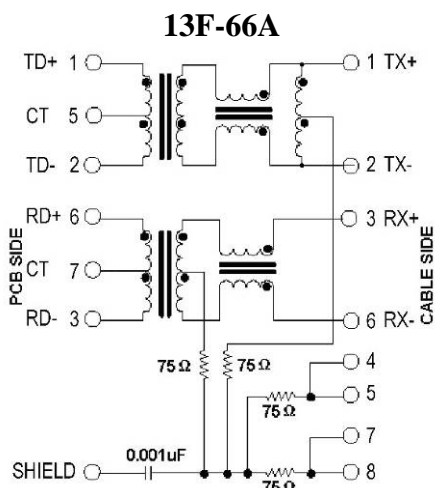
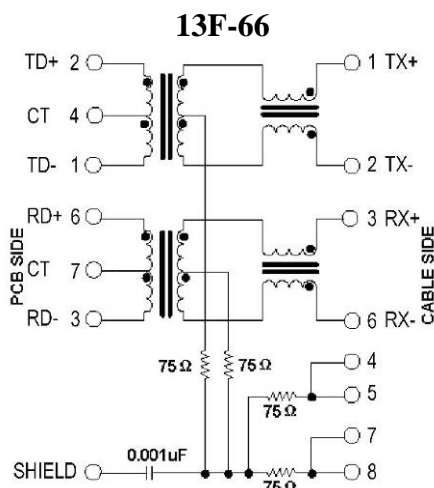
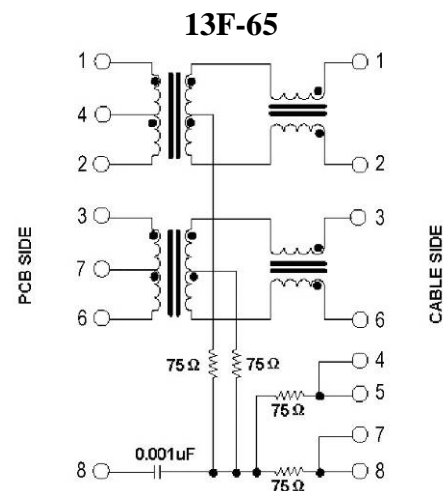
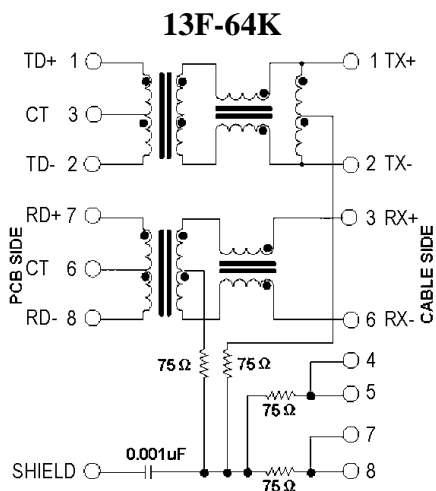
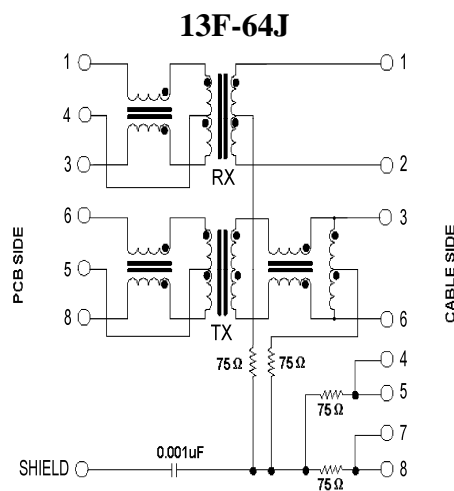












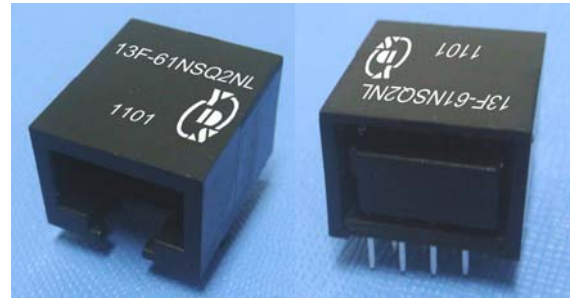




## RJ45 10/100 BASE-T JACK WITH MAGNETIC SINGLE SMALL MODULE

## FEATURES

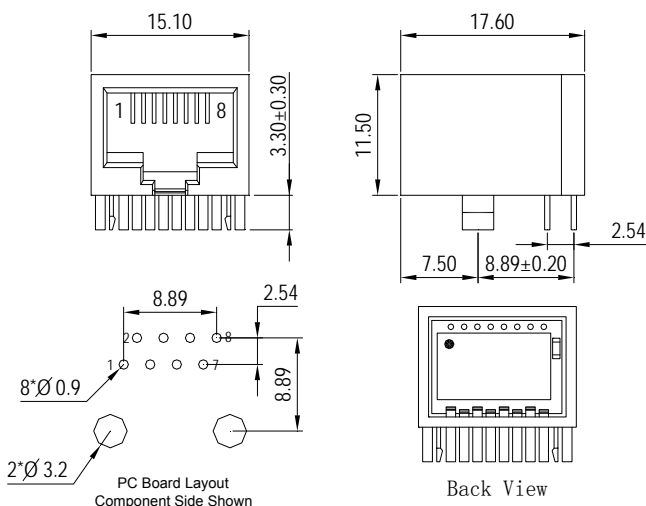
- Magnetic designs to support every PHY
- Meet or exceed IEEE 802.3af and ANSI X3.263 standards
- Meet IEEE 802.3at standards
- including 350uH min OCL with 8mA bias
- Minimum 1500Vrms isolation per IEEE 802.3 requirement
- Designed for 100 base transmission over UTP-5 cable
- Size same as RJ-45 modular jack to save PCB board Space
- Recognized by UL 60950-1



## ELECTRICAL SPECIFICATIONS @25°C-Operating temperature 0°C TO 70°C

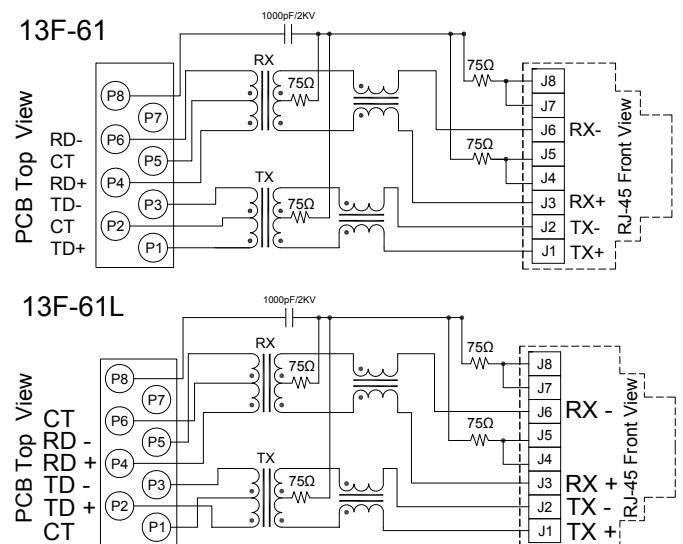
| Part<br>Number | Turns Ratio<br>Pri:Sec.<br>±5% |         | Insertion<br>Loss<br>(dB MAX) | Return Loss<br>(dB MIN @100 Ω) |           |           |              | Crosstalk<br>(dB MIN.) |           |            | Common Mode Rejection<br>(dB MIN.) |           |            | Hipot<br>(V <sub>rms</sub> MIN) |
|----------------|--------------------------------|---------|-------------------------------|--------------------------------|-----------|-----------|--------------|------------------------|-----------|------------|------------------------------------|-----------|------------|---------------------------------|
|                | TX                             | RX      | 0.3-100<br>MHz                | 1-30<br>MHz                    | 40<br>MHz | 50<br>MHz | 60-80<br>MHz | 30<br>MHz              | 60<br>MHz | 100<br>MHz | 30<br>MHz                          | 60<br>MHz | 100<br>MHz |                                 |
| 13F-61NSQ2     | 1CT:1CT                        | 1CT:1CT | -1.0                          | -18                            | -16       | -14       | -12          | -40                    | -35       | -30        | -35                                | -30       | -25        | 1500                            |
| 13F-61LNSQ2    | 1CT:1CT                        | 1CT:1CT | -1.0                          | -18                            | -16       | -14       | -12          | -40                    | -35       | -30        | -35                                | -30       | -25        | 1500                            |

## Mechanicals and Dimensions



UNIT:mm Unless otherwise specified,all tolerances are ±0.25

## SCHEMATICS



## MATERIALS

## 1. Housing Material:

MATERIAL: NYLON GF (Fr50) UL94V-0  
STANDARD COLOR: BLACK

## 2. Insert Material:

MATERIAL: Phos-Bronze C5210 EH---0.35mm Thickness  
Insert -PBT GF UL94V-0

1. PLATING(1) NICKEL
2. PLATING(2) 100%Sn
3. PLATING(3) GOLD (3u " ~50u " )

## 3. Plate Material: PBT GF UL 94V-0

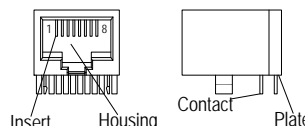
## 4. Contact pin Material:

MATERIAL: Phos-Bronze C5191---0.35mm Thickness

1. PLATING(1) NICKEL
2. PLATING(2) 100%Sn

## 5. Operating Life: 750 Cycles MIN.

## 6. MATES WITH MODULAR PLUG CONFORMING TO FCC PART 68, SUBPART F.



## Part Number

13F - 61 NS Q 2 NL  
A B C D E F

A: Series

B: Schematics

C: Mechanical

D: Single Small Module

E: Gold Plating: 1=3u", 2=6u", 3=15u", 4=30u", 5=50u"

F: RoHS version